

South Africa. Consequently the general reluctance of US utilities to follow must be attributed to their own special considerations. In this regard, I would reiterate my view that the intense interest in Australian uranium shown by many of South Africa's customers is a function of their wishing to increase both competition and diversity of supply as opposed to any turning away from South Africa.

The situation as regards Namibia must, in truth, be viewed as less than optimum insofar as inspiring confidence in potential new buyers. It would seem that realistically, any government coming to power there would require the foreign exchange, taxes, employment and other benefits associated with Rossing. On the other hand, I would judge that development of even new low cost production in that area would have to await resolution of the present uncertainties.

South Africa on the other hand would appear to be well positioned for the forthcoming market period. Based on my previous comments, we anticipate a difficult market characterized by oversupply—and aggressive competition for market share, particularly from new production in Australia and western Canada.

With its facilities in place, South Africa's by-product producers should be able to compete effectively, its marginal gold producers and primary uranium producers less so. Sales opportunities beginning in the mid-1980's are being reduced by nuclear power plant delays and cancellations, inventory buildup and continuing and aggressive sales efforts. Any decision by South Africa to stay out of the market pending price improvement is risky for a number of reasons. First, if we are correct, price is not likely to improve. Second, whether or not prices improve, many or most of the

best sales opportunities could already be filled. Third, adverse movements in the gold price, coupled with a continuation of the high rates of working cost within the gold mining industry could seriously erode the competitive positions of those weaker producers with uncommitted supplies.

Obviously the decision to sell or not to sell and under what terms and conditions is one that can be made only by South African producers. Presumably, they conduct their own analyses and forecasts, and will move when they judge it to be in their economic self-interest. If the picture I have painted here today proves correct, stockpiling uranium would appear to be of questionable economic merit.

Having made the previous statement I must at once modify it, by recognizing that the South Africa uranium industry is not monolithic. Even were each of the mining houses to agree 100 percent with the analysis presented here, it is likely that each would respond differently. Furthermore, it is probable that the different responses would be appropriate for different mines in any one group. The differences in depth grade, gold-uranium ratio, marginal production cost and the size, duration and pricing of their existing uranium delivery commitments all argue that a given economic environment will necessitate different responses.

I would conclude, however, on a more optimistic note. Nuclear power will continue to grow as an energy source. We really have no other choice. And uranium consumption will follow this growth. Neither will increase fast enough to make producers happy in this decade, but increase they must.

Appendix

The data used to plot the figures are tabled for reference.

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Table 1
NUEXCO EXCHANGE VALUE*

Determined as of the last day of the month indicated (US Dollars pound UsOs)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1970	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.20	6.15	6.15	6.15	6.15
1971	6.20	6.20	6.20	6.20	6.15	6.05	6.00	5.95	5.95	5.95	5.95	5.95
1972	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95
1973	5.95	6.00	6.10	6.20	6.45	6.50	6.50	6.50	6.50	6.50	6.75	7.00
1974	7.70	7.90	8.00	9.00	9.50	10.50	11.50	12.00	12.50	14.00	14.75	15.00
1975	16.00	16.00	18.00	20.00	21.00	23.00	24.70	26.00	26.00	28.50	30.00	35.00
1976	35.20	37.00	39.25	40.00	40.00	40.00	40.00	40.40	41.00	41.00	41.50	41.00
1977	41.35	41.50	41.60	41.60	42.00	42.25	42.25	42.25	42.40	42.75	43.20	43.20
1978	42.90	43.25	43.25	43.25	43.40	43.40	43.40	43.10	43.25	43.00	43.25	43.25
1979	43.25	43.25	43.25	43.25	43.25	43.00	42.70	42.70	42.20	42.20	41.00	40.75
1980	40.00	38.00	35.00	32.00	32.00	31.50	31.50	30.00	28.50	28.00	28.00	27.00
1981	25.00	25.00	25.00	25.00	25.00	25.00						

*The Exchange Value is Nuexco's judgment of the price at which transactions for significant quantities of natural uranium concentrates could be concluded as of the last day of the month.

Table 2
NUEXCO EXCHANGE VALUE EXPRESSED IN CONSTANT APRIL 1976 DOLLARS*

Determined as of the last day of the month indicated (US Dollars pound UsOs)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	35.74	37.42	39.48	40.00	39.91	39.69	39.43	39.59	39.96	39.64	39.95	39.40
1977	39.53	39.34	39.08	38.76	38.95	39.08	38.84	38.65	38.61	38.67	39.04	38.90
1978	38.32	38.39	38.16	37.79	37.69	37.45	37.20	36.72	36.66	36.07	36.06	35.86
1979	35.41	35.01	34.56	34.01	33.63	33.10	32.38	31.96	31.12	30.52	29.47	29.00
1980	27.64	25.74	23.47	21.24	21.20	20.74	20.54	19.42	18.41	17.93	17.84	17.27
1981	15.53	15.27	15.06	14.87								

*The US Producer Price Index is used to standardize data.

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Table 3
NUEXCO EXCHANGE VALUE EXPRESSED IN CONSTANT FEBRUARY 1981 DOLLARS*
 Determined as of the last day of the month indicated (US Dollars pound US\$)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	58.51	61.26	64.64	65.49	65.34	64.98	64.55	64.82	65.42	64.90	65.41	64.51
1977	64.72	64.41	63.98	63.46	63.77	63.98	63.59	63.28	63.21	63.31	63.92	63.69
1978	62.74	62.85	62.48	61.87	61.71	61.31	60.90	60.12	60.02	59.05	59.04	58.71
1979	57.96	57.30	56.57	55.68	55.05	54.17	53.00	52.32	50.94	49.96	48.23	47.46
1980	45.25	42.13	38.41	34.77	34.70	33.95	33.62	31.79	30.14	29.35	29.20	27.82
1981	25.42	25.00	24.66	24.34								

*The US Producer Price Index is used to standardize data.

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Table 4-A
US NUCLEAR ELECTRIC GENERATING CAPACITY^{1 2}
(thousands of MWe—net)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Reactors now operational	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8
Now under construction	3.2	8.2	14.7	21.5	28.2	34.6	41.1	47.1	54.3	60.8
Now on order	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
US Total	54.0	59.0	65.5	72.3	79.0	85.4	91.9	97.9	105.1	111.6

¹Installed as of year end.

²Uses Nuexco estimates of commercial operating dates.

Table 4-B
US APPARENT FUTURE CONSUMPTION¹
(millions of pounds U₃O₈)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Reactors now operational	16.3	16.6	17.0	17.2	17.3	17.3	17.2	17.1	17.0	16.8
Reactors now under construction	4.6	6.3	10.1	13.2	15.5	18.2	17.9	20.5	23.4	23.5
Now on order	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
US Total	20.9	22.9	27.1	30.4	32.8	35.5	35.1	37.6	40.4	40.3

¹Computed quantities of U₃O₈ which would be used under the given conditions, to fabricate fuel for loading and reloading reactors operating, under construction or on order as of October 31, 1980. Compiled and computed on a reactor-by-reactor basis, quantities for each reactor are based on specific core characteristics, 0.25 percent tails assay, no recycling, 24-month lead time for procuring first cores and 18-month lead time for procuring each reload. Where reload schedule is not already known, these estimates assume reloads occur one year after commercial operating date and annually thereafter. Nuexco estimates of individual reactor capacity factors are used.

Table 5
APPARENT FUTURE CONSUMPTION¹
(millions of pounds U₃O₈)

BUYER GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
United States	20.9	22.9	27.1	30.4	32.8	35.5	35.1	37.6	40.4	40.3
Europe	25.6	28.9	35.4	30.8	36.3	38.0	44.9	42.4	43.3	42.7
Far East ²	6.9	6.9	6.8	11.1	11.7	11.6	11.7	12.4	13.3	14.2
Other WOCA ³	3.1	5.1	5.9	5.1	4.6	5.9	7.5	7.2	5.6	6.1
WOCA TOTAL	56.5	63.8	75.2	77.4	85.4	91.0	98.6	99.6	102.6	103.3

¹Computed quantities of U₃O₈ which would be used under the given conditions, to fabricate fuel for loading and reloading reactors operating, under construction or on order as of October 31, 1980. Compiled and computed on a reactor-by-reactor basis, quantities for each reactor are based on specific core characteristics, 0.25 percent tails assay, no recycling, 24-month lead time for procuring first cores and 18-month lead time for procuring each reload. Where reload schedule is not already known, these estimates assume reloads occur one year after commercial operating date and annually thereafter. Nuexco estimates of individual reactor capacity factors are used.

²Japan, Korea, People's Republic of China, Taiwan.

³Excludes Bulgaria, Czechoslovakia, German Democratic Republic, Finland (two Russian reactors), Hungary, Poland, Romania, USSR.

Table 6
WORLD URANIUM PRODUCTION FORECAST¹
(millions of pounds U₃O₈)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Australia	5.8	10.8	10.8	10.8	12.0	15.0	15.0	15.0	15.0	12.0
Canada	16.4	19.6	19.4	22.2	23.0	25.0	27.0	27.4	27.4	27.4
Niger, Gabon	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
France	7.4	7.7	7.8	8.3	8.3	8.3	8.3	8.3	8.3	8.6
Namibia	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Rep of South Africa	18.9	19.8	20.4	20.9	21.3	21.7	21.5	21.5	21.4	21.4
Other Nations ²	1.4	1.5	2.5	2.7	3.2	3.2	3.2	3.2	3.2	3.2
Non-US Total	75.2	84.7	86.2	90.2	93.1	98.5	100.3	100.7	100.6	97.9
US	31.0	26.9	26.1	24.0	21.1	19.5	18.4	16.8	16.3	15.8
Total (Rounded)	106	112	112	114	114	118	119	118	117	114

¹World Outside Communist Areas.

²Includes Argentina, Belgium, Brazil, Chile, Portugal, Spain, and others.

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Table 7
URANIUM SUPPLY-DEMAND BALANCE: WOCA¹
(millions of pounds U₃O₈)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
PRODUCTION										
Total	104.2	111.6	112.3	114.2	114.2	118.0	118.7	117.5	116.9	113.7
Less										
CONSUMPTION	56.5	63.8	75.0	77.4	85.4	91.0	98.6	99.6	102.6	103.3
Equals										
NET INVENTORY										
INCREASE	47.7	47.8	37.1	36.8	28.8	27.0	20.1	17.9	14.3	10.4
Plus										
BEGINNING										
INVENTORY	311.9 ²	359.6	407.4	444.5	481.3	510.1	537.1	557.2	575.1	589.4
Equals										
ENDING										
INVENTORY	359.6	407.4	444.5	481.3	510.1	537.1	557.2	575.1	589.4	599.8

¹World outside Communist areas.

²Nuexco estimate.

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